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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,589	11/21/2003	Hidemasa Sawada	117827	9393

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
SHAH, MANISH S	
ART UNIT	**PAPER NUMBER**
2853	

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,589	SAWADA, HIDEMASA	
	Examiner	Art Unit	
	Manish S. Shah	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 & 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yatake et al. (# US 5746818).

Yatake et al. discloses an image recording method (column: 13, line: 5-15) including a pretreatment step of causing a pretreatment liquid containing propylene glycol monopropyl ether (column: 12, line: 35-45; column: 5, line: 18-26) and a cationic substance to adhere on a medium (column: 11, line: 40-65); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment (column: 3, line: 10-65) and resin microplarticles (water soluble resin) (column: 10, line: 19-45) having a negative surface charge (column: 13, line: 60-67; column: 14, line: 1-10). They also discloses that the pretreatment liquid contains same water soluble solvent as the ink composition (column: 12, line: 35-45), which contains dipropylene glycol monopropyl ether in an amount of 5 to 60% by weight (column: 5, line: 25-27) and cationic substance in an amount of 1 to 10% by weight (column: 12, line: 13-17). They also disclose that the pigment contains in an amount of 2 to 15% (column: 3, line: 60-62), and the pigment, which has an average of volume particle size of 10 to 300 nm (column: 23, line: 20-23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake (# US 5746818) in view of Koitabashi et al. (# US 6582047).

Yatake discloses all the limitation of the image recording method except that the medium is a cloth.

Koitabashi et al. (047) teaches that the to get the excellent ink absorption printing medium in image forming method, the print medium is selected from paper, synthetic paper, cloth and non-woven cloth (column: 6, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium of Kubota et al. by the aforementioned teaching of Koitabashi et al. (047) in order to excellent ink absorption printing medium, which gives high quality printed image.

3. Claims 1, 3-4 & 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (# US 6086197) in view of Yatake (# US 5746818).

Kubota et al. discloses an image recording method (see Abstract) including a pretreatment step of causing a pretreatment liquid (reaction solution) containing dipropylene glycol (column: 3, line: 10-25; column: 5, line: 20-45) and a cationic substance to adhere on a medium (column: 3, line: 60-67); and a recording step of forming after the pretreatment step, an image on the recording medium by using an aqueous pigment ink containing a pigment (column: 6, line: 55-67; column: 7, line: 1-20) and resin microplarticles, wherein resin particle is resin emulsion (column: 7, line: 19-45) having a negative surface charge. They also discloses that the pretreatment liquid contains propylene glycol in an amount of 2 to 20% by weight (column: 5, line: 25-27) and cationic substance in an amount of 5 to 25% by weight (column: 4, line: 1-10). They also disclose that the pigment contains in an amount of 2 to 15% (column: 7, line: 15-25), and the resin emulsion has an average of volume particle size of 5 to 100 nm (column: 7, line: 35-40).

Kubota et al. differs from the claim of the present invention is that the pretreatment liquid contains dipropylene glycol monopropyl ether, and a pigment has an average of volume particle size of 100 to 5 micrometer.

Yatake teaches that to improve the penetration of the ink and prevent the clogging of the nozzle, the pretreatment liquid contains same water soluble solvent as the ink composition, which contains dipropylene glycol monopropyl ether in the amount of 5 to 10% by weight (column: 5, line: 1-26; column: 12, line: 35-45), and the pigment has an average of volume particle size of 10 to 300 nm (column: 23, line: 20-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Kubota et al. by the aforementioned teaching of Yatake in order to improve the penetration of the ink and prevent the clogging of the nozzle, which gives high quality printed image.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (# US 6086197) in view of Yatake (# US 5746818) as applied to claims 1, 3-4 & 6-7 above, and further in view of Koitabashi et al. (# US 6582047).

Kubota et al. and Yatake discloses all the limitation of the image recording method except that the medium is a cloth.

Koitabashi et al. (047) teaches that the to get the excellent ink absorption printing medium in image forming method, the print medium is selected from paper, synthetic paper, cloth and non-woven cloth (column: 6, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium of Kubota et al. by the aforementioned teaching of Koitabashi et al. (047) in order to excellent ink absorption printing medium, which gives high quality printed image.

5. Claims 2 & 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818).

Koitabashi et al. discloses an image recording method (column: 13, line: 5-15) including a pretreatment step of causing a pretreatment liquid containing propylene

glycol ([0114]) and a cationic substance to adhere on a medium ([0110]); and a black recording step of forming after the pretreatment step, an image on the recording medium by using a black aqueous pigment ink containing a pigment ([0115], [0053]-[0090]) and resin microplarticles (water soluble resin) (see Examples) having a negative surface charge (figure: 1-6); and a color recording step of forming after a specific amount of time has elapsed since the execution of the black recording step, an image on the medium by using a colored aqueous pigment ink containing a pigment other than the black pigment and resin microparticles having a negative charge ([0115]-[0125]). They also discloses that the pretreatment liquid contains propylene glycol in an amount of 5 to 40% by weight ([0114]) and cationic substance in an amount of 0.01 to 10% by weight ([0110]). They also disclose that the pigment contains in an amount of 1 to 10% ([0078]), and the pigment, which has an average of volume particle size of 0.05 to 0.3 micrometer ([0067]).

Koitabashi et al. differs from the claim of the present invention is that the pretreatment liquid contains dipropylene glycol monopropyl ether, and in the amount of 5 to 10% by weight.

Yatake teaches that to improve the penetration of the ink and prevent the clogging of the nozzle, the pretreatment liquid contains same water-soluble solvent as the ink composition, which contains dipropylene glycol monopropyl ether in the amount of 5 to 10% by weight (column: 5, line: 1-26; column: 12, line: 35-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Koitabashi et al. by the aforementioned

teaching of Yatake in order to improve the penetration of the ink and prevent the clogging of the nozzle, which gives high quality printed image.

6. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818) as applied to claims 2 & 11-12 above, and further in view of Kubota et al. (# US 6086197).

Koitabashi et al. and Yatake discloses all the limitation of the image recording method except that the resin microparticles are a resin emulsion.

Kubota teaches that to inhibiting the penetration of the colorant, accelerating the fixation, and rubbing resistance printed image, the ink composition includes the pigment and resin emulsion (column: 7, line: 20-60) in an amount of 0.1 to 40% by weight (column: 8, line: 20-24) and has a particle size of 5 to 100 nm (column: 7, line: 35-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the pretreatment liquid of Koitabashi et al. as modified by the aforementioned teaching of Kubota in order to inhibiting the penetration of the colorant, accelerating the fixation, and rubbing resistance printed image.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al. (# US 2002/0044185 A1) in view of Yatake (# US 5746818) as applied to claims 2 & 11-12 above, and further in view of Koitabashi et al. (# US 6582047).

Koitabashi et al. (185) and Yatake discloses all the limitation of the image recording method except that the medium is a cloth.

Koitabashi et al. (047) teaches that the to get the excellent ink absorption printing medium in image forming method, the print medium is selected from paper, synthetic paper, cloth and non-woven cloth (column: 6, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing medium of Koitabashi et al. (185) by the aforementioned teaching of Koitabashi et al. (047) in order to excellent ink absorption printing medium, which gives high quality printed image.

Response to Arguments

8. Applicant's arguments filed on 05/31/2006 have been fully considered but they are not persuasive. Applicant argued that Yatake et al. fails to disclose using dipropylene glycol monopropyl ether in reaction solution, which is not persuasive. In column: 12, line: 35-45, Yatake clearly teaches that "the reaction solution used in the ink jet recording method according to the present invention may suitably contain a component which may be added to the above ink composition. The amount of such a component added may be the same as that in the case of the addition to the above ink composition.", which means that reaction solution can have the same water soluble organic solvent as ink composition, which means that the reaction solution contains dipropylene glycol monopropyl ether. Therefore, Yatake et al. discloses that reaction solution (pretreatment liquid) containing dipropylene glycol monopropyl ether. The

examples of Yatake et al. also disclose that the water-soluble organic solvents in the ink composition and in the reaction solution are the same.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Manish S. Shah
Primary Examiner
Art Unit 2853

MSS
8/10/06